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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,581	05/31/2001	Fabio Casati	10007896-1	2636

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

LIN, KENNY S

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,581

Applicant(s)

CASATI ET AL.

Examiner

Kenny, Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Nowhere in the specification suggests or teaches to determine the number of nodes to be activated based on the number of elements in a vector. Page 16, lines 13-20 of the specification described a determination made based on whether there are more elements in vector V to be processed and repeat the processes until all elements in vector V have been processed. However, the descriptions do not clearly or inherently teach to activate the number of nodes based on an activation rule based on the number of elements in a vector. How is the number of the elements in a vector affecting the activation rule? What is the reason for determining the number of nodes to be activated based on the number of elements in a vector? What is the benefit for determining the number of nodes to be activated based on the number of elements in a vector?

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4. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Nowhere in the specification suggest or teaches to determine the number of nodes to be activated based on the number of elements in a vector. Determining the number of nodes to be activated based on a vector does not inherently teach or suggest the determination of the number of nodes to be activated based on the number of elements in the vector.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The specification lacks proper antecedence basis for claim limitations:

i. Nowhere in the specification suggest or teaches to determine the number of nodes to be activated based on the number of elements in a vector.

b. The following terms lack proper antecedence basis:

i. Claim 1, line 4 – “a node” (is this node the same as the multinode? If not, amendment is needed to distinguish the difference between the “multinode as a node” and “a node” and “a same node”);

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- ii. Claims 2-3, lines 3 – “an activation rule” (activation rule was first introduced in claim 1. Change to “said activation rule”);
- iii. Claims 4-5, and 11, lines 3 – “a termination rule” (termination rule was first introduced in claim 1. Change to “said termination rule”);
- iv. Claim 5, line 4 – “all service nodes” (service nodes were never introduced in the preceding claims. Are service nodes referring to “nodes”, or are they different? If they are referring to the same element, consistent terms should be used);
- v. Claim 6, line 3 – “the other service nodes” (service nodes were never introduced in the preceding claims. Are service nodes referring to “nodes”, or are they different?);
- vi. Claim 7, line 2 – “a successor node” (successor node was introduced in claim 1. Is this a different successor node? If yes, please amend to distinguish the two);
- vii. Claim 7, line 3 – “service nodes” (service nodes were never introduced in the preceding claims. Are service nodes referring to “nodes”, or are they different?);
- viii. Claim 11, line 7 – “a successor node” (successor node was introduced in claim 1. Is this a different successor node? If yes, please amend to distinguish the two);
- ix. Claim 12, line 7 – “the mulitnode” (Do you mean “one of the multinodes”? Multinodes were introduced in line 6);

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- x. Claim 13, line 5 – “a multinode” (multinode was first introduced in claim 12);
- xi. Claim 14, line 3 – “an activation rule” (activation rule was first introduced in claim 12. Change to “said activation rule”);
- xii. Claim 15, line 4 – “by resource” (resource was introduced in claim 14);
- xiii. Claim 15, line 7 – “by variable” (variable was introduced in claim 14);
- xiv. Claim 16, line 7 – “the resource list” (resource list was never introduced in preceding claims);
- xv. Claim 19, line 1 – “the variable type” (variable type was never introduced in preceding claims).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 7-10, 12-14 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Du et al (hereinafter Du), US 6,041,306.

9. As per claim 1, Du taught the invention as claimed including a method for invoking multiple parallel instances of a same node comprising the steps of:

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- a. Defining a multinode as a node that allows for multiple parallel activation of a node (col.3, lines 1-10, col.4, lines 10-14, 17-22, 45-50);
- b. At run time determining the number of nodes to be activated based on an activation rule (col.4, lines 66-67, col.5, lines 59-67, col.6, lines 1-6, col.7, lines 5-8);
- c. Executing the nodes in the multinode (col.6, lines 39-48);
- d. Determining when the execution of the multinode is completed based on a termination rule (col.6, lines 49-63, col.7, lines 5-8; cancel activity, time out and deadline); and
- e. When the execution of the multinode is complete, executing a successor node (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6; forward activity); and
- f. When the execution of the multinode is not complete, processing continues at step c (col.1, lines 56-63).

10. As per claim 12, Du taught the invention as claimed including a system for processing multinode definitions comprising:

- a. A workflow engine for processing workflow definitions (col.3, lines 5-7, col.4, lines 10-14, 22-27); and
- b. A multinode handling facility coupled to the workflow engine for processing multinodes (col.3, lines 1-10, col.4, lines 10-14, 17-22, 45-50), determining the number of nodes in the multinode to be activated based on an activation rule (col.4, lines 66-67, col.5, lines 59-67, col.6, lines 1-6, col.7, lines 5-8); executing

the nodes in the multinode (col.6, lines 39-48); determining when the execution of the multinode is completed based on a termination rule (col.6, lines 49-63, col.7, lines 5-8; cancel activity, time out and deadline); and when the execution of the multinode is completed, executing a successor node (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6; forward activity).

11. As per claim 2, Du taught the invention as claimed in claim 1. Du further taught that determining the number of nodes to be activated based on an activation rule includes determining the number of nodes to be activated based on an activation rule based on the number of resources available (col.2, lines 22-51, col.6, lines 1-6).

12. As per claim 7, Du taught the invention as claimed in claim 1. Du further taught to comprise the step of allowing flow to continue to a successor node when all invoked service nodes have been completed (col.6, lines 49-63, col.7, lines 5-8, col.12, lines 3-6).

13. As per claim 8, Du taught the invention as claimed in claim 1. Du further taught that the step of executing the multinode includes the step of providing each node in the multinode with different input data for execution (col.7, lines 26-30, col.13, lines 63-67).

14. As per claim 9, Du taught the invention as claimed in claim 1. Du further taught that the step of executing the multinode includes the step of providing different attributes for each node in the multinode (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

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15. As per claim 10, Du taught the invention as claimed in claim 9. Du further taught that the attributes includes one of resources selection criteria, security, exception handling criteria, and deadlines for node execution (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

16. As per claim 13, Du taught the invention as claimed in claim 12. Du further taught that the multinode handling facility further comprises a multinode determination unit for receiving a node definition and responsive thereto for determining whether the current node is a normal work node or a multinode (col.4, lines 10-22, 45-57, col.6, lines 1-6).

17. As per claim 14, Du taught the invention as claimed in claim 12. Du further taught that the multinode handling facility further comprises an activation facility for receiving an activation rule and based thereon for determining whether activation is by resource or by variable (col.2, lines 22-51, col.6, lines 1-6).

18. As per claim 20, Du taught the invention substantially as claimed in claim 12. Du further taught that each node in the multinode is provided with different input data and different attributes for execution; wherein the attributes includes one of resource selection criteria, security, exception handling criteria, and deadlines for node execution (col.1, lines 56-63, col.7, lines 26-30, col.13, lines 63-67, col.15, lines 28-48).

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Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 4-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al (hereinafter Du), US 6,041,306, in view of "Official Notice".

21. As per claims 4-6, Du taught the invention substantially as claimed in claim 1. Du further taught that determining the execution of the multinode is completed based on a termination rule includes evaluating when the multinode goal has been achieved, terminating the execution of the multinode or whether all service nodes have been completed, and when all service nodes have been completed (col.6, lines 49-63, col.14, lines 57-67, col.15, lines 1-5). Du did not specifically teach that determining the execution of the multinode is completed based on a termination rule includes evaluating whether a multinode goal has been achieved, terminating the execution of the multinode or canceling the other service nodes and proceeding to a successor node. However, Official Notice is taken that it would have been obvious to apply the teaching of terminating nodes using termination rules to terminate the multinode where the termination rules sets various criteria in determining termination of a node. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and further apply Du's teaching of terminating nodes based on a termination rule

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to verify which nodes have completed the execution and meets the set condition for termination in the termination rules to ensure nodes are not left in idle state hugging up processor resources.

22. As per claim 11, Du taught the invention substantially as claimed in claim 1.

Du further taught that the step of determining when the execution of the multinode is completed based on a termination rule further includes the step of specifying multinode termination by a condition (col.7, lines 6-8, col.14, lines 57-67, col.15, lines 1-5). Du did not specifically teach to check the condition when one of the nodes in the multinode terminates; and when the condition is satisfied, a successor node is activated, and other nodes in execution within the multinode are canceled. However, Official Notice is taken that it would have been obvious to apply the teaching of terminating nodes using termination rules to terminate the multinode where the termination rules sets various criteria in determining termination of a node. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and further apply Du's teaching of terminating nodes based on a termination rule to verify which nodes have completed the execution and meets the set condition for termination in the termination rules to ensure nodes are not left in idle state hugging up processor resources.

23. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al (hereinafter Du), US 6,041,306, in view of Dugan et al (hereinafter Dugan), US 2002/0083166.

24. As per claim 15, Du taught the invention substantially as claimed in claim 14. Du did not specifically teach that the multinode handling facility further comprises a resource-based

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activation facility coupled to the activation facility for processing activation by resource; and a variable-based activation facility coupled to the activation facility for processing activation by variable. Dugan taught a multinode handling facility further comprises a resource-based activation facility coupled to the activation facility for processing activation by resource; and a variable-based activation facility coupled to the activation facility for processing activation by variable (pp. 0051, 0059, 0064-0070). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

25. As per claim 16, Du and Dugan taught the invention substantially as claimed in claim 15. Dugan further taught that the resource-based activation facility further comprises a resource rule execution unit for executing the resource rule of the multinode; and a new instance generation unit for starting new instance of the multinode for each new resource in the resource list (pp. 0059-0061, 0072-0074). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

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26. As per claim 17, Du and Dugan taught the invention substantially as claimed in claim 16. Dugan further taught to use a database of record component to store all services and data in the multinode (pp. 0067; e.g., resource rule). Du and Dugan did not specifically teach that the resource rule is specified in a service node tag of a multinode description. However, Official Notice is taken that the concept and advantage of using tags to contain instructions is well known and expected in the art. Tag is well known in the art to be a code that identifies an element in a document such as a heading or a paragraph for the purpose of formatting, indexing and linking information in the document. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du, Dugan and the use of tags to link the resource rule with the multinode description.

27. As per claim 18, Du and Dugan taught the invention substantially as claimed in claim 15. Dugan further taught that the variable-based activation facility further comprises a variable name reader for reading the variable name; and a new instance generation unit for starting new instance of the multinode for each new element in the variable identified by the variable name (pp. 0067-0069). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

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28. As per claim 19, Du and Dugan taught the invention substantially as claimed in claim 18. Dugan further taught that the variable type is one of a vector and a list (pp. 0067-0069, 0106). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Du and Dugan because Dugan's teaching of using resource-based activation facility and variable-based activation facility enables Du's system to determine the capabilities of each component of each node and create services based on the determination (pp. 0067-0069).

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yuuki et al, US 5,951,683.

Teacherson, US 6,578,010.

Gilbert et al, US 6,041,376.

Barroux, US 6,220,768.

Barabash et al, US 5,179,633.

Barkley, US 6,088,679.

30. A shortened statutory period for reply to this Office action is set to expire **THREE MONTHS** from the mailing date of this action.

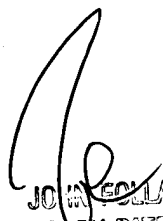
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31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenny Lin whose telephone number is (571) 272-3968. The examiner can normally be reached on 8 AM to 5 PM Tue.-Fri. and every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksl
March 16, 2005


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